

IN THE CLAIMS

1-12. (Cancelled)

13. (Currently Amended) Either of the two kinds of a single-chain polypeptide constituting the diabody-type bispecific antibody according to Claim 1, or a polypeptide constituting each region contained in the single-chain polypeptide A single-chain polypeptide from a humanized diabody-type bispecific antibody comprising:

(A) a heavy chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:43, and

a light chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:46, or

(B) a heavy chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:44, and

a light chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:45

(C) a heavy chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:44 and a light chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:45,

wherein Met at position 48 and Ala at position 93 of the light chain sequence according to SEQ ID NO:45 are replaced by Ile and Thr, respectively

(D) a heavy chain comprising a variable region comprising an amino acid sequence

according to SEQ ID NO:44 and a light chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:45,

wherein Arg at position 66, Met at position 69, Arg at position 71 and Thr at position 73 of the light chain sequence according to SEQ ID NO:45 are replaced by Lys, Leu, Val and Arg, respectively, and

(E) a heavy chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:44 and a light chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:45,

wherein Met at position 48, Arg at position 66, Met at position 69, Arg at position 71, Thr at position 73 and Ala at position 93 of the light chain sequence according to SEQ ID NO:45 are replaced by Ile, Lys, Leu, Val, Arg and Thr, respectively.

14. (Withdrawn) A nucleic acid encoding the single chain polypeptide or each region contained therein of Claim 13.

15. (Withdrawn) The nucleic acid according to Claim 14 having an optimum codon for a host cell in which the nucleic acid is expressed.

16. (Withdrawn) The nucleic acid according to Claim 15 having the optimum codon for E. coli.

17. (Withdrawn – Currently Amended) A replicable cloning vector or expression vector comprising the nucleic acid according to Claim 14, ~~15 or 16~~.

18. (Withdrawn) The vector according to Claim 17, which is a plasmid vector.

19. (Withdrawn) A host cell transformed with the vector according to Claim 17.

20. (Withdrawn) The host cell according to Claim 19, which is E. coli.

21. (Withdrawn – Currently Amended) A method for the production of the a single-chain polypeptide according to Claim 13, comprising culturing the host cell ~~according to Claim 19 to express the transformed with nucleic acid in it acids encoding the polypeptide, expressing the nucleic acid, collecting the expressed polypeptide, and purifying the single-chain polypeptide according to Claim 13 polypeptide.~~

22. (Withdrawn – Currently Amended) A method for the production of the diabody-type a diabody-type bispecific antibody according to Claim 4, comprising assembling the single-chain polypeptides produced by the method of Claim 21 to form the diabody-type a diabody-type bispecific antibody according to Claim 1, and separating and collecting the diabody-type antibody.

23. (Currently Amended) A pharmaceutical preparation comprising an active ingredient selected from the group consisting of the diabody-type bispecific antibody according to Claim 1 + Claim 28, the polypeptide according to Claim 13, the nucleic acid according to Claim 14, the vector according to Claim 17, and the host cell according to Claim 19.

24. (Currently Amended) The pharmaceutical preparation according to Claim 23 for use in eliminating, hurting, damaging and/or reducing tumor cells comprising the diabody-type specific antibody according to claim 28.

25. (Currently Amended) The pharmaceutical preparation according to Claim 23 Claim 24 for use in increasing the production of cytokines by the cells having phagocytosis or cytotoxic activity.

26. (Currently Amended) The pharmaceutical preparation according to Claim 23, 24 or 25 Claim 24 comprising as the active ingredient the humanized a humanized diabody-type bispecific antibody.

27. (Withdrawn – Currently Amended) A method for increasing the production of cytokines by the cells having phagocytosis or cytotoxic activity, comprising adding the diabody-type bispecific antibody according to Claim 1 Claim 28 to a culture system containing the cells having phagocytosis or cytotoxic activity and tumor cells expressing the human EGF receptors.

28. (New) A humanized diabody-type bispecific antibody consisting of two single-chain polypeptides selected from the group of (A)-(D) consisting of:

(A) a first single-chain polypeptide comprising

a heavy chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:43, and a light chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:46, and

a second single-chain polypeptide comprising

a heavy chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:44, and a light chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:45,

(B) a first single-chain polypeptide comprising

a heavy chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:43 and a light chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:46, and

a second single-chain polypeptide comprising a heavy chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:44 and a light chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:45,

wherein Met at position 48 and Ala at position 93 of the light chain sequence according to SEQ ID NO:45 are replaced by Ile and Thr, respectively

(C) a first single-chain polypeptide comprising

a heavy chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:43 and a light chain comprising a variable region comprising an amino acid

sequence according to SEQ ID NO:46, and

a second single-chain polypeptide comprising
a heavy chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:44 and a light chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:45,

wherein Arg at position 66, Met at position 69, Arg at position 71 and Thr at position 73 of the light chain sequence according to SEQ ID NO:45 are replaced by Lys, Leu, Val and Arg, respectively, and

(D) a first single-chain polypeptide comprising
a heavy chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:43 and a light chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:46, and

a second single-chain polypeptide comprising
a heavy chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:44 and a light chain comprising a variable region comprising an amino acid sequence according to SEQ ID NO:45,

wherein Met at position 48, Arg at position 66, Met at position 69, Arg at position 71, Thr at position 73 and Ala at position 93 of the light chain sequence according to SEQ ID NO:45 are replaced by Ile, Lys, Leu, Val, Arg and Thr, respectively.

29. (New) The humanized diabody-type bispecific antibody according to claim 28 which is (A).

30. (New) The humanized diabody-type bispecific antibody according to claim 28 which is (B).

31. (New) The humanized diabody-type bispecific antibody according to claim 28 which is (C).

32. (New) The humanized diabody-type bispecific antibody according to claim 28 which is (D).